

are incorporated in subchapter E as applicable to use in the production, processing, handling, and labeling of animal feed and pet food, except where specifically provided for in this part.

[51 FR 5993, Feb. 19, 1986]

### Subpart B—Radiation and Radiation Sources

#### § 579.22 Ionizing radiation for treatment of animal diets.

Ionizing radiation for treatment of complete diets for animals may be safely used under the following conditions:

(a) *Energy sources.* Ionizing radiation is limited to:

(1) Gamma rays for sealed units of the radionuclides cobalt-60 or cesium-137.

(2) Electrons generated from machine sources at energy levels not to exceed 10 million electron volts.

(b) *Uses.* (1) The ionizing radiation is used or intended for use in single treatment as follows:

Food for irradiation	Limitations	Use
Bagged complete diets, packaged feeds, feed ingredients, bulk feeds, animal treats and chews.	Absorbed dose: Not to exceed 50 kiloGrays. Feeds and feed ingredients treated by irradiation should be formulated to account for nutritional loss.	Microbial disinfection, control or elimination

(2) If an irradiated feed ingredient is less than 5 percent of the final product, the final product can be irradiated without being considered to be re-irradiated.

[51 FR 5993, Feb. 19, 1986; 51 FR 8315, Mar. 11, 1986, as amended at 58 FR 18148, Apr. 8, 1993; 66 FR 18540, Apr. 10, 2001]

#### § 579.40 Ionizing radiation for the treatment of poultry feed and poultry feed ingredients.

Ionizing radiation for the treatment of complete poultry diets and poultry feed ingredients may be safely used as follows:

(a) *Energy sources.* Ionizing radiation is limited to:

(1) Gamma rays from sealed units of cobalt-60 or cesium-137;

(2) Electrons generated from machine sources at energy levels not to exceed 10 million electron volts (MeV);

(3) X-rays generated from machine sources at energies not to exceed 5 MeV, except as permitted by § 179.26(a)(4) of this chapter; or

(4) X-rays generated from machine sources using tantalum or gold as the target material and using energies not to exceed 7.5 MeV.

(b) *Limitation.* The ionizing radiation is used for feed or feed ingredients that do not contain drugs.

(c) *Use.* Ionizing radiation is used as a single treatment for rendering complete poultry diets or poultry feed ingredients salmonella negative as follows:

(1) Minimum dose 2.0 kiloGrays (kGy) (0.2 megarad (Mrad)); maximum dose 25 kGy (2.5 megarads Mrad). The absorbed dose of irradiation is to be based on initial concentration of salmonella using the relationship that 1.0 kGy (0.1 Mrad) reduces salmonella concentration by one log cycle (one decimal reduction).

(2) Feeds treated by irradiation should be formulated to account for nutritional loss.

(3) If an irradiated feed ingredient is less than 5 percent of the final product, the final product can be irradiated without being considered to be re-irradiated.

[60 FR 50099, Sept. 28, 1995, as amended at 78 FR 27304, May 10, 2013; 78 FR 34565, June 10, 2013]

## PART 582—SUBSTANCES GENERALLY RECOGNIZED AS SAFE

### Subpart A—General Provisions

Sec.

582.1 Substances that are generally recognized as safe.

582.10 Spices and other natural seasonings and flavorings.

582.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

582.30 Natural substances used in conjunction with spices and other natural seasonings and flavorings.

582.40 Natural extractives (solvent-free) used in conjunction with spices, seasonings, and flavorings.